SPACE CENTER
Roundup

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Inspection2000 features NASA technology available for real-world applications

From spacesuits to firesuits – NASA technology can be applied to almost any industry to help improve existing products, materials or processes. That's the thinking behind Inspection, JSC's annual open-door event for industry, researchers, scientists and businesspeople, which will be held November 1, 2 and 3.

To conquer and expand the frontier of space, NASA must continuously develop new technologies and overcome extreme challenges. This leads to breakthroughs in almost every field, from food and clothing to computer systems and communications. Yet, many of these solutions remain untapped for problems on Earth.

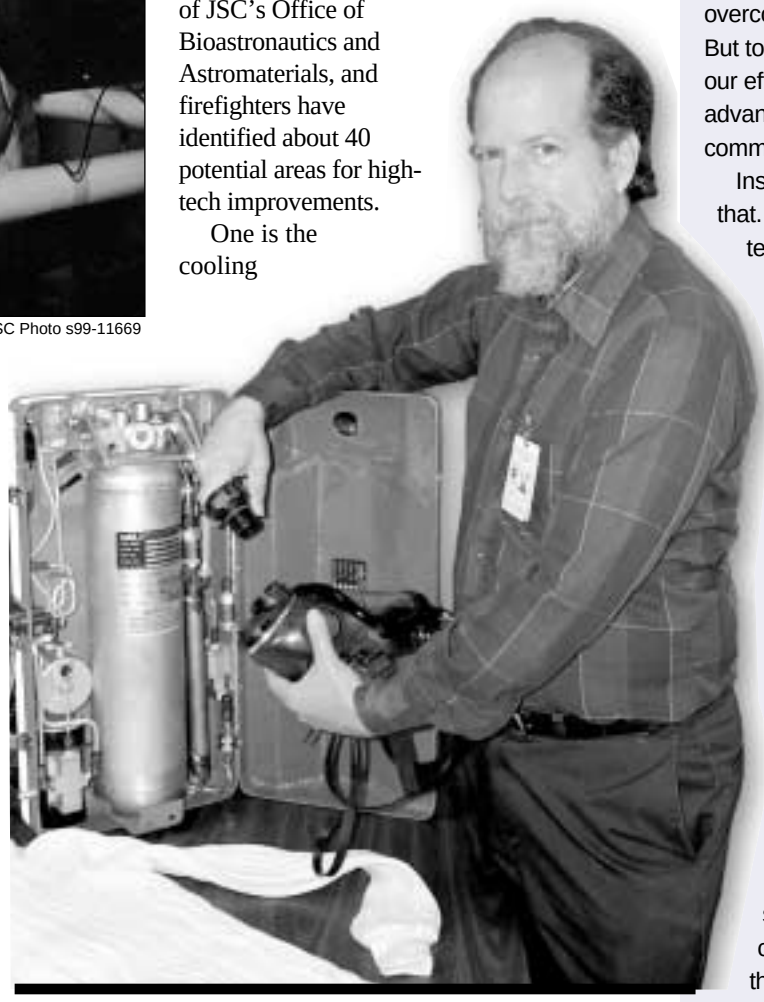
However, through Inspection, JSC is able to initiate partnerships with industries and people who might have never considered NASA as a counterpart before.

"We are trying to reach more of the non-aerospace-related markets," explains Inspection2000 Chairperson Charlene Gilbert. "There are many markets that have little exposure to space research and on the surface, they don't see any connection with NASA to the challenges they face. But once they have an opportunity to talk with NASA engineers, dig beneath the surface, and define the technical obstacles, they frequently find that there are many similarities between the two."

With that in mind, the center will be open for three days for visitors from a wide range of sectors in the business, science and academic backgrounds to peruse the near-three hundred exhibits showcasing NASA technology and talk with JSC professionals. More than 2,500 guests are expected to attend the event, now in its fourth year.

Even fields that initially seem worlds away from space-related technology may find some parallel challenges. Such was the case with spacesuit technology that is now being used for firefighter suits.

NASA JSC Photo s99-11669



Above: NASA spacesuit technology is helping to improve the efficiency and performance of this firefighter suit, worn by JSC Engineer Dom Del Rosso.

Right: Aerospace Engineer Tico Foley demonstrates the connection of the Super Critical Air Mobility Pack (SCAMP) to a traditional firefighter's mask.

Hot news for firefighters

The technology that protects space-walking astronauts may soon be available to firefighters on the ground through the development of an advanced suit that offers greater protection, endurance, mobility and better communications.

JSC, working with the Houston Fire Department, KSC, Aerospace Design and Development, the Department of Defense, and Lockheed Martin, is developing a prototype suit that could double the time a firefighter can battle a blaze before having to rest and cool off.

The advanced firefighter's suit will use a number of state-of-the-art NASA technologies. Among them is active cooling, protecting the firefighter from metabolic heat trapped in the suit. Combined with new fabrics on the outer garment, the liquid cooling inner garment can allow more lengthy exposure to temperatures of up to 500 degrees Fahrenheit, compared to a maximum of 300 degrees for currently used suits. It will be double sealed, exposing no skin areas and providing protection against hazardous materials. The suit also will offer greater impact protection.

The design is still evolving. The suit ultimately could have an integrated modern helmet with duplex radio, infrared imaging to search for fire victims, biodata and temperature sensors, and readouts on the status of its life support system.

Dr. Kumar Krishen, chief technologist in the Technology Transfer and Commercialization Office, Tico Foley, an aerospace engineer in the Habitability and Environmental Factors Office of JSC's Office of Bioastronautics and Astromaterials, and firefighters have identified about 40 potential areas for high-tech improvements.

One is the cooling capability. "With protection from both internal and external heat sources, the firefighter will be able to extend the time available to perform the tasks of saving lives and property," Foley said. ■

To register for Inspection2000 or for additional information visit the Web site at http://inspection.jsc.nasa.gov/, *call (281) 244-1316 or E-mail inspection@jsc.nasa.gov.*

Why Inspection?

Opening the door to NASA research and development so that the American economy and marketplace can take full advantage of its resources, and turn it into improved efficiency, jobs, technology and a stronger America is what Inspection2000 is all about.

Each day, tremendous work is done at NASA field centers, from missile research and defense systems to improvements in the aviation system and development of the safest vehicle ever, the space shuttle. But it is not enough to just do these things.

Most of us are well aware of the great strides made at NASA any given day, and the challenges we must overcome to reach those successes. But to get the absolute most value from our efforts we have to share those advancements and we have to communicate them.

Inspection is the venue to do just that. Inspection makes NASA technology available to those solving problems in our nation's commercial marketplace. In turn, it affords the NASA team with an opportunity to investigate better approaches to our own challenges. Through Inspection, we can draw from the expertise and experience of the broader community as well as identify areas where collaborative work would be mutually advantageous.

Inspection is JSC's opportunity to interface with the commercial counterparts in a wide range of markets. Every year, engineers, scientists, academics, researchers, doctors and hundreds of other professionals are invited to see our center's developing technology that incorporate revolutionary processes to work.

JSC has emphasized commercial outreach and technology transfer as "our commitment to develop new ways of doing business." We have been challenged to make significant changes in the way we do business – to be more efficient and deliver more benefits to the American people for less. Each of us can do our part by participating in events such as Inspection. ■

JSC staff and site poised for Inspection.

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Genesis payload readies for mission to collect solar dust.

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Clinic announces new approach to onsite care.

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